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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,805	12/09/2003	Andrew D. Park	122/20	2708

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EXAMINER

RUDDOCK, ULA CORINNA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,805

Applicant(s)

PARK ET AL.

Examiner

Ula C. Ruddock

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/11/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13-18 and 20 of copending Application No. 10/664233. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are obvious variants over one another.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 13-20 disclose "a rigid non-ceramic facing." However, claim 14 discloses that the "non-ceramic facing comprises a material selected from the group consisting of boron carbide, silicon carbide, titanium diboride, aluminum nitride, silicon nitride, sintered silicon carbide, sintered silicon nitride, and aluminum oxide." These claims are vague and indefinite because one having ordinary skill in the art would know that all the materials described in claim 14 are ceramic materials. Therefore, it is unclear how and why Applicant is claiming a "non-ceramic facing" when all the components listed are, in fact, ceramic. The remaining claims are rejected for being dependent upon an independent rejected base claim. Clarification/correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5 and 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 5,635,288) in view of Henderson (US 2001/0053645). Park discloses ballistic resistant composite for hard-armor applications comprising a rigid plate and a ballistic laminate structure supported by the plate. The laminate structure includes first and second arrays of high performance, unidirectionally-oriented fiber bundles (abstract). The bundles include fibers chosen from the group consisting of aramid fiber and ultra high molecular weight polyethylene (col 3, ln 26-31). The rigid plate includes a group consisting of ceramic, steel, aluminum, titanium, and graphite (col 3, ln 40-43). Examples of a ceramic plate include boron carbide (col 6, ln 53-54). An adhesive material is provided for adhering the ballistic laminate to the plate means, preferably an epoxy resin (col 3, ln 47-50). In a preferred embodiment, a Kevlar fiber can be 1.5 denier per filament (col 5, ln 48-49). The rigid plate may be flat or contoured depending upon the particular end use (col 7, ln 23). Park discloses the claimed invention except for the teaching that the fibers have tensile strength greater than 7 grams per denier.

Henderson (US 2001/0053645) discloses a multi-layered ballistic resistant article. The ballistic resistant article includes at least one layer of hard armor and at least one layer of fibrous armor composite (abstract). The monolithic [0025] hard armor material comprises titanium, aluminum, steel [0020] and ceramic [0022]. The fibrous material comprises Kevlar fibers [0041] having a tenacity equal to or greater than about 8 grams per denier [0046]. It would have been obvious to have used Henderson's disclosure of Kevlar fibers having a tenacity equal to or greater

than about 8 grams per denier in the ballistic resistant composite of Park, motivated by the desire to create a ballistic resistant material that has increased ballistic resistant properties.

Regarding claims 11, 12, 18, 19, it should be noted that the composite thickness and the composite weight are result effective variables. For example, the thickness of the fabric will directly affect the ballistic resistant properties of the composite. The weight of the fabric will directly affect the durability of the composite, as well as the wearer's comfort. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used a composite having a thickness of less than 0.900 inches and a weight of less than 5.1 pounds per square foot, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have optimized the composite thickness and weight, motivated by the desire to create a ballistic resistant composite having the desired comfort, durability, and ballistic resistant properties.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 5,635,288) in view of Henderson (US 2001/0053645), as shown above, and further in view of Klintworth et al. (US 2003/0139108). Park and Henderson disclose the claimed invention except for the teaching that the armor composite fails to disclose that the means for adhering the rigid plate to the fabric is a polymeric film.

Klintworth et al. (US 2003/0139108) disclose hard armor panels including a ceramic tile adhered to a backing panel (abstract). The ceramic tile may be made of silicon carbide or boron carbide [0019]. The backing material comprises p-aramid (Kevlar) fibers [0020]. Preferably, the

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backing element is fixed to the rear surface by a film adhesive [0032], which the Examiner is equating to Applicant's polymeric film. It would have been obvious to one having ordinary skill in the art to have used Klintworth's film adhesive in place of the epoxy adhesive of Park and Henderson, motivated by the desire to create a laminate have increased lamination strength.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C. Ruddock whose telephone number is 571-272-1481. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Primary Examiner
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